

Appl. No. 10/806,916

Amdt. Dated May 15, 2006

Reply to Office Action of March 13, 2005

REMARKS

This is a full and timely response to the final Office action mailed March 13, 2006. This response is filed within two months of the mailing date of the final rejection. Reexamination and reconsideration in view of the following remarks is respectfully solicited. Claims 1-28 are pending in this application, with claims 1, 14 and 23 being the independent claims.

Rejections Under 35 U.S.C. § 102

In an office action dated September 19, 2005, Claims 1-8, 10, 11, 14-19, 22-24 and 26-27 were rejected under 35 U.S.C. § 102 as allegedly being anticipated by U.S. Patent Application Publication No. 2002/0145610 to Barilovits et al (hereinafter Barilovits). With regard to claim 1, the Examiner stated that Barilovits describes a graphics processor that comprises a linear-output gamma translator, a processor core, and a non-linear output translator. In a response filed December 19, 2005, applicant disagreed and submitted that the claims were patentably distinct over the cited references. Specifically, applicant argued that the cited reference failed to teach a "linear-output gamma translator translating the received image data into a substantially linear gamma space". Instead, applicant argued that while Barilovits disclosed a "linear transformation" of R'G'B' to YCbCr, this does not translate to a "linear gamma space" output.

In response to applicant's arguments, the Examiner issued a final rejection dated March 3, 2006. In this final rejection, the Examiner disagreed with applicant's arguments, and alleged that translation from RGB to R'G'B' disclosed in Barilovits is a non-linear transformation from a non-gamma corrected non-linear gamma space to a gamma corrected, non-linear space, citing paragraph [0232] of Barilovits. The Examiner further stated that Barilovits describes that the translation from R'G'B' to YCbCr is a linear transformation from a gamma corrected, non-linear space to a gamma corrected, linear space, citing paragraph [0018]. Thus, the Examiner concluded that the YCbCr output is a linear gamma space output, and there for Barilovits does disclose a linear-

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output gamma translator.

Applicant again respectfully disagrees and submits that the claims are patentably distinct over the cited Barilovits reference. Specifically, applicant again submits that the YCbCr output is not a "substantially linear gamma space" output as recited in the independent claims. Instead, paragraph [0018] of Barilovits describes YCbCr as derived from the non-linear, gamma corrected R'G'B' color space "by a linear transformation". **Applicants submit that a linear transformation of a non-linear, gamma corrected R'G'B' color space results in a YCbCr color space that is also non-linear.** Thus, since R'G'B' is a non-linear representation (see paragraph [0017]), the resulting YCbCr is also a non-linear representation. Stated another way, the "linear transformation" described in paragraph [0018] does not result in a linear gamma space output. Instead, the "linear transformation" starts with a non-linear gamma space (in R'G'B' format) and outputs a non-linear gamma space (in YCbCr format).

Again, applicant notes that, as the term is used in applicant's specification, a "linear-output gamma translator" is one that translates into image data that is in the **linear gamma space**. Likewise, a non-linear output translator is one where the image data is translated into a **non-linear gamma space**. Stated another way, the terms "linear" and "non-linear" identify the image space of the output from translators. Because the YCbCr output described in Barilovits is a linear transformation of the non-linear gamma space R'G'B' (see paragraph [0010] of Barilovits), the YCbCr output is thus also in the non-linear gamma space. In summary, because the YCbCr output is not a linear gamma space output, paragraph 0232 does not disclose a "linear-output gamma translator translating the received image data into a **substantially linear gamma space**". Thus, Barilovits fails to teach the claimed invention.

Additionally, in the first office action the Examiner stated that Barilovits disclosed a processor rendering "the translated image data to create rendered image data" and "translating the rendered image data into a non-linear gamma space". In response,

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applicant disagreed, noting that while Barilovits does describe some non-linear output translation (*e.g.*, paragraph [0232] of Barilovits), it is not the translation of image data **that has been previously translated into a linear gamma space and then rendered**. In the final office action, the Examiner maintained the rejection, stating that Barilovits describes that the linear-output gamma translator outputs to the low pass filter (citing paragraph [0035]), which outputs to memory (citing paragraph [0029]), and that the memory outputs to a processor core that renders the translated image (citing paragraph [0104]), and the rendered image data is then translated into a non-linear gamma space (citing paragraph [0224] and [0015]).

Applicants again disagree, and note that once again, while Barilovits does describe some non-linear output translation prior to output, it is not of image data **that was been previously translated into a linear gamma space and then rendered**. As such, the Barilovits reference fails to disclose the cited limitations.

Thus, applicant submits that claim 1 is patentably distinct over Barilovits. Claim 14 is submitted to be patentably distinct for similar reasons. Furthermore, as claims 2-13 and 15-22 depend from, and include all the limitations of independent claims 1 and 14 respectively, they are also submitted to be patentably distinct.

Furthermore, these dependent claims also include other limitations not found in Barilovits. For example, with regard to claims 3, 4, and 16, the Examiner stated that Barilovits describes where the linear-output gamma translator adds bits when converting from R'G'B' to YCbCr. Again, applicant disagrees and again notes that the conversion from R'G'B' to YCbCr is not a **linear-gamma space output translation**, and thus there is **no linear-gamma space output with a higher bit representation**. Furthermore, the cited portion [0018] of Barilovits describes only 8 bit to 0-255 (*i.e.*, 8 bit) conversion when converting from R'G'B' to YCbCr, and is **not thus a conversion to a higher bit representation at all**. With regard to claim 4, applicants note that the mere phrase "correct to three decimal places" simply describes the mathematical precision of the

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conversion processes, and does not imply a floating boat representation of the resulting image data, especially in light of the explicit teaching on an 8-bit representation (i.e., 0-255 representation).

As a final example, with regard to claim 12, applicant can find no teaching that the recited alpha blending, anti-aliasing and video merge are performed on the image data in the **substantially linear gamma space**. Again the portion of Barilovits cited by the Examiner fails to teach such a transformation, or that any of these activities are performed on such transformed image data.

Applicant further submits that independent claim 23 is patentably distinct over the cited Barilovits for same reasons as given above with respect to claims 1, 3 and 16. Furthermore, as claims 24-28 depend from, and include all the limitations of independent claim 23, they are also submitted to be patentably distinct.

Rejections Under 35 U.S.C. § 103

Applicant notes that the various rejections of the dependent claims under § 103 all rely upon the same mischaracterization of the Barilovits reference. Applicants thus submit that these rejections fail for the same reasons.

Conclusion

Based on the above, independent claims 1, 14 and 23 are patentable over the citations of record. The dependent claims are also submitted to be patentable for the reasons given above with respect to the independent claims and because each recite features which are patentable in its own right. Individual consideration of the dependent claims is respectfully solicited.

The other art of record is also not understood to disclose or suggest the inventive concept of the present invention as defined by the claims.

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Hence, Applicant submits that the present application is in condition for allowance. Favorable reconsideration and withdrawal of the objections and rejections set forth in the above-noted Office action, and an early Notice of Allowance are requested.

If the Examiner has any comments or suggestions that could place this application in even better form, the Examiner is requested to telephone the undersigned attorney at the below-listed number.

If for some reason Applicant has not paid a sufficient fee for this response, please consider this as authorization to charge Ingrassia, Fisher & Lorenz, Deposit Account No. 50-2091 for any fee which may be due.

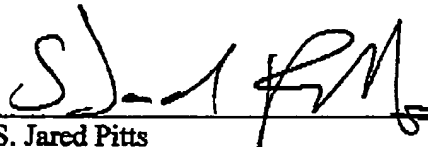
Respectfully submitted,

INGRASSIA FISHER & LORENZ

Dated:

15 May 2006

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